

## Features

- Excellent clamping capability
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant <sup>(Note1)</sup> ("P" Suffix Designates RoHS Compliant. See Ordering Information)

## Maximum Ratings and Thermal Characteristics

Parameter	Symbol	Value	Unit
Peak Pulse Power Surge Current with a 10/1000µs Waveform <sup>(Note 1)</sup>	I <sub>PPM</sub>	See Next Table	A
Peak Pulse Power Dissipation <sup>(Note 1)</sup>	P <sub>PPM</sub>	5000	W
Power Dissipation on Infinite Heatsink at TL= 75°C	P <sub>D</sub>	8	W
Peak Forward Surge Current Unidirectional Only <sup>(Note 2)</sup>	I <sub>FSM</sub>	600	A
Maximum instantaneous forward voltage at 25A for unidirectional only	V <sub>F</sub>	3.5	V
Operating Junction Temperature Range, Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C
Typical Thermal Resistance Junction to Lead	R <sub>θJL</sub>	10	°C/ W
Typical Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	40	°C/ W

### Note:

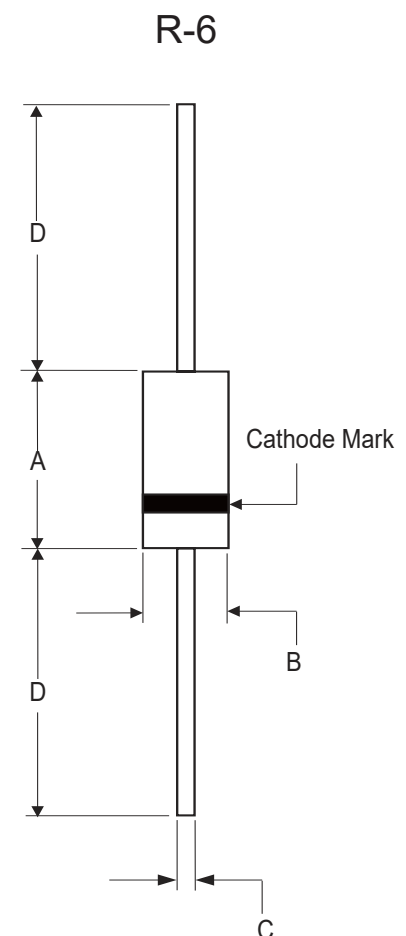
- 1.Non-repetitive current pulse , per Fig. 4 and derated above T<sub>J</sub> (initial) =25°C per Fig. 3.
- 2.Measured on 8.3ms single half sine wave or equivalent square wave, duty cycle=4 per minute maximum.

## Internal Structure and Marking Code

Description	Simplified outline	Graphic symbol
Uni-directional		
Bi-directional		

XXXXX=Part Number

**5000 Watts TVS  
22 to 188 Volts**



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.340	0.360	8.60	9.10	
B	0.340	0.360	8.60	9.10	
C	0.048	0.052	1.20	1.32	
D	1.000	-----	25.40	-----	

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

MCC Part Number		Working Peak Reverse Voltage	Breakdown Voltage $V_{BR}$ @ $I_T$			Maximum Clamping Voltage @ $I_{PP}$	Maximum Reverse Surge Current	Maximum Reverse Leakage @ $V_{RWM}$
(Uni)	(Bi)		$V_{RWM}$ (V)	Min (V)	Max (V)			
5KP22AL	5KP22CAL	22	24.4	26.9	5	35.5	141.0	2
5KP24AL	5KP24CAL	24	26.7	29.5	5	38.9	129.0	2
5KP26AL	5KP26CAL	26	28.9	31.9	5	42.1	119.0	2
5KP28AL	5KP28CAL	28	31.1	34.4	5	45.4	110.0	2
5KP30AL	5KP30CAL	30	33.3	36.8	5	48.4	103.0	2
5KP33AL	5KP33CAL	33	36.7	40.6	5	53.3	93.8	2
5KP36AL	5KP36CAL	36	40.0	44.2	5	58.1	86.1	2
5KP40AL	5KP40CAL	40	44.4	49.10	5	64.5	77.5	2
5KP43AL	5KP43CAL	43	47.8	52.8	5	69.4	72.0	2
5KP45AL	5KP45CAL	45	50.0	55.3	5	72.7	68.8	2
5KP48AL	5KP48CAL	48	53.3	58.9	5	77.4	64.6	2
5KP51AL	5KP51CAL	51	56.7	62.7	5	82.4	60.7	2
5KP54AL	5KP54CAL	54	60.0	66.3	5	87.1	57.4	2
5KP58AL	5KP58CAL	58	64.4	71.2	5	94.0	53.4	2
5KP60AL	5KP60CAL	60	66.7	73.7	5	97.0	51.7	2
5KP64AL	5KP64CAL	64	71.10	78.6	5	103.0	48.5	2
5KP70AL	5KP70CAL	70	77.8	86.0	5	113.0	44.2	2
5KP75AL	5KP75CAL	75	83.3	92.10	5	121.0	41.3	2
5KP78AL	5KP78CAL	78	86.7	95.8	5	126.0	39.7	2
5KP85AL	5KP85CAL	85	94.4	104.0	5	137.0	36.5	2
5KP90AL	5KP90CAL	90	100.0	111.0	5	146.0	34.2	2
5KP100AL	5KP100CAL	100	111.0	123.0	5	162.0	30.9	2
5KP110AL	5KP110CAL	110	122.0	135.0	5	177.0	28.2	2
5KP120AL	5KP120CAL	120	133.0	147.0	5	193.0	25.9	2
5KP130AL	5KP130CAL	130	144.0	159.0	5	209.0	23.9	2
5KP150AL	5KP150CAL	150	167.0	185.0	5	243.0	20.6	2
5KP160AL	5KP160CAL	160	178.0	197.0	5	259.0	19.3	2
5KP170AL	5KP170CAL	170	189.0	209.0	5	275.0	18.2	2
5KP188AL	5KP188CAL	188	209.0	231.0	5	328.0	15.2	2

Curve Characteristics

Fig. 1 - Peak Pulse Power Rating Curve

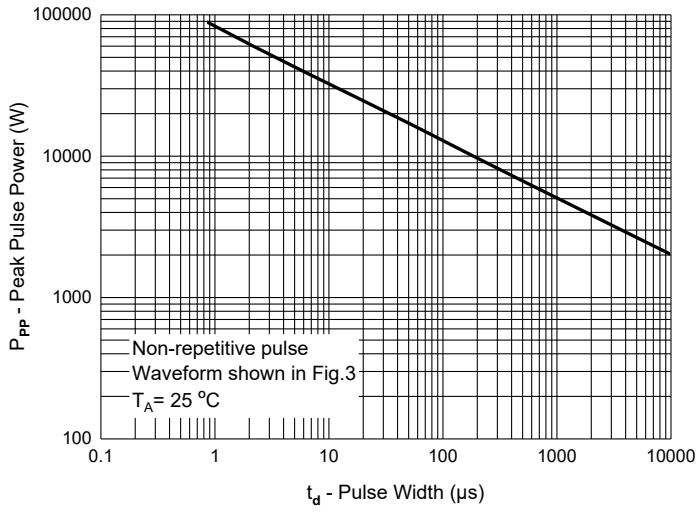


Fig. 2 - Typical Junction Capacitance

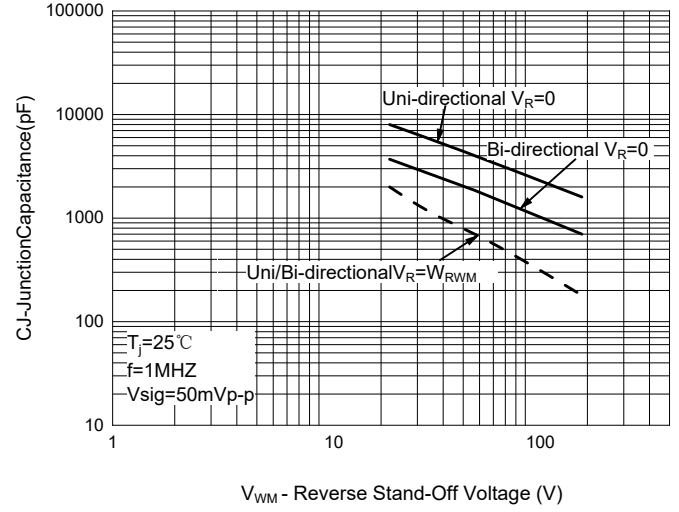


Fig. 3 - Pulse Waveform

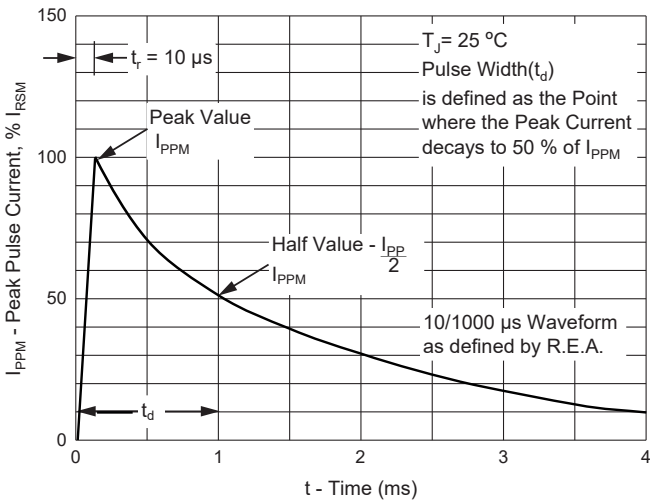
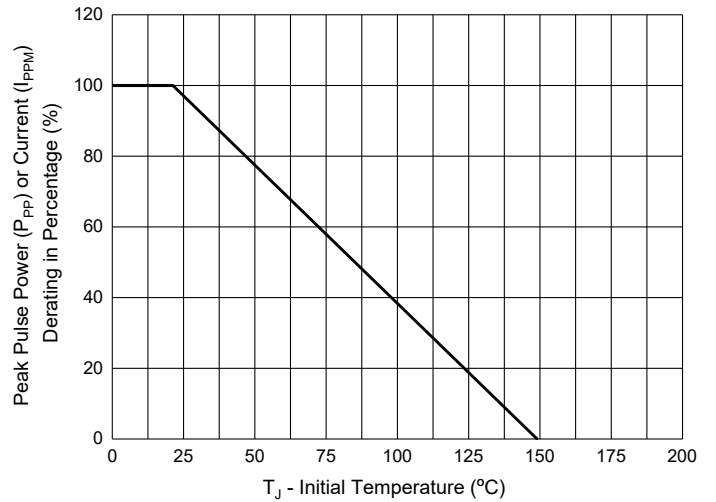


Fig. 4 - Pulse Derating Curve



## Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel: 500pcs/Reel
(Part Number)-AP	Ammo Packing: 450pcs/Ammo Box
(Part Number)-BP	Bulk: 200pcs/Box ;4.8Kpcs/Carton

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

### \*\*\*IMPORTANT NOTICE\*\*\*

**Micro Commercial Components Corp.** reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp.** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp.** and all the companies whose products are represented on our website, harmless against all damages. **Micro Commercial Components Corp.** products are sold subject to the general terms and conditions of commercial sale, as published at <https://www.mccsemi.com/Home/TermsAndConditions>.

### \*\*\*LIFE SUPPORT\*\*\*

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

### \*\*\*CUSTOMER AWARENESS\*\*\*

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.